

A MULTIDEPOSITION SACVD REACTOR

ABSTRACT

There is disclosed a high throughput multideposition SACVD reactor that enables the
5 rapid thermal deposition of dielectric materials such as Si_3N_4 , SiO_2 , and SiON and non-dielectric
materials such as polysilicon onto a semiconductor substrate in the same chamber according to
the desired sequence. Such a reactor has a processing chamber which is well adapted to single
semiconductor wafer processing. The processing chamber includes an improved susceptor to
support the wafer and a specific gas distribution system adapted to supply the different gases
10 used in the deposition process and for cleaning. The improved susceptor consists of a standard
carbon plate coated with a polysilicon film to protect it against said cleaning gases when they are
aggressive to carbon. The present invention also encompasses a method of fabricating said
improved susceptor.